SIGGRAPH 2001

Course 38: A Practical Guide to Global Illumination using Photon Mapping

Photon maps in RenderPark

Frank Suykens

K.U.Leuven, Belgium

What is RenderPark?

- Physically based rendering software
- Open source for non-commercial uses
- *Research/Educational* tool
  - Comparison between algorithms
  - Quickly try out new algorithms
  - Not a production renderer
- Unix: IRIX, Linux, ...
- C/C++

RenderPark Algorithms

- Stochastic ray tracing
- Bi-directional Path Tracing
- Radiosity
  - Galerkin, Monte Carlo (hierarchical, ...)
- Photon Maps
- Multipass algorithms

Photon Maps in RenderPark

- Caustic & Global   (+ experimental volume map)
- Importance driven
- Balanced/Unbalanced kd-trees
- Irradiance precomputation

- No irradiance caching in final gather pass

Photon Maps in RenderPark

Photon Maps in RenderPark

Photon Maps in RenderPark
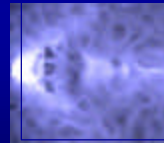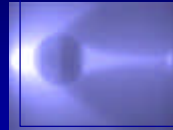
Glass Knot

2.5M caustic photons, 200 nearest in reconstr.

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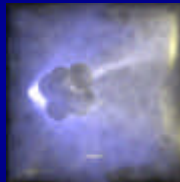**Photon Maps in RenderPark**

Not yet in public release...

Participating media (F. Anrys, K. vom Berge, 2001)

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Photon Maps in RenderPark

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Check it out !

www.renderpark.be

Developpers:

　　　Philippe Bekaert (MPI, Germany)

　　　Frank Suykens (K.U.Leuven)
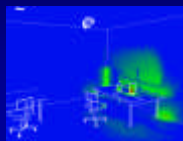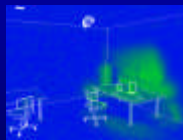
　　　Pieter Peers (K.U.Leuven)

　　　...

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Required density

Actual density

Visual Importance

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